

Serial No. 10/022,618

Atty. Docket No. LeA 35 010

Amended Claims (Attorney Docket No. LeA 35 010)

1. (Currently amended) A method for detecting ~~tumour~~ tumor cells and their ~~precursors~~ precursor cells in uterine cervical smears ~~by simultaneously detecting at least two molecular markers in a cell or tissue sample comprising~~  
contacting the ~~cell or tissue sample~~ cells with color marked signalling reagents that specifically bind ~~said~~ to at least two molecular markers of cervical cancer,  
simultaneously detecting color signal intensities ~~of color mixtures resulting from said~~ markers,  
~~and~~  
combining ~~and accrediting~~ the color signal intensities, ~~and~~  
measuring and accrediting the combined color signal intensities, thereby detecting tumor cells and their precursor cells in uterine cervical smears.
2. (Cancelled).
3. (Currently amended) The method according to Claim claim 1, ~~characterized in that at least one of the markers comprises~~ wherein one of the at least two molecular markers is selected from the group consisting of her2/neu, p16, p53, MN, mdm-2, bcl-2, EGF receptor, and specific DNA from the HPV subtypes 6, 11, 16, 18, 30, 31, 33, 35, 45, 51 and 52.
4. (Currently amended) The method according to Claim claim 1, wherein the at least two molecular markers are selected from the group consisting of ~~marker combinations comprise~~ her2/neu and p16, EGF-R and p16, p53 and her2/neu, her2/neu and mdm-2, bcl-2 and p16, bcl-2 and her2/neu, or p16 and p53.
5. (Currently amended) The method according to claim 1, ~~further characterized in that 3 markers are detected~~ wherein three molecular markers of cervical cancer are detected.
6. (Cancelled).
7. (Cancelled).
8. (Cancelled).
9. (Cancelled).
10. (Cancelled).

Serial No. 10/022,618

Atty. Docket No. LeA 35 010

11. (Cancelled).
12. (New) The method according to claim 5, wherein at least one of the three molecular markers is selected from the group consisting of her2/neu, p16, p53, MN, mdm-2, bcl-2, EGF receptor, and DNA from the HPV subtypes 6, 11, 16, 18, 30, 31, 33, 35, 45, 51 and 52.
13. (New) The method according to claim 5, wherein at least two of the three molecular markers are selected from the group consisting of her2/neu and p16, EGF-R and p16, er-p53 and her2/neu, her2/neu and mdm-2, bcl-2 and p16, bcl-2 and her2/neu, and p16 and p53.
14. (New) The method according to claim 1, further comprising automated diagnosis using a diagnostic expert system.
15. (New) A method for detecting tumor cells and their precursor cells in uterine cervical smears comprising
  - contacting the cells with signaling reagents that specifically bind to at least two molecular markers of cervical cancer,
  - simultaneously detecting color signal intensities from said markers at a first wavelength,
  - repeating said detection at a second wavelength,
  - combining the color signal intensities, and
  - measuring and accrediting the combined color signal intensities, thereby detecting tumor cells and their precursor cells in uterine cervical smears.